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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,057	09/05/2003	Ronald E. Steele	RD8350USNA	9391

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EXAMINER

BUTLER, PATRICK

ART UNIT	PAPER NUMBER
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1732

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/656,057	STEELE, RONALD E.	
	Examiner	Art Unit	
	Patrick Butler	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>20040614, 20031208</u> | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-5, drawn to a process, classified in class 264, subclass 172.17.
- II. Claim 6, drawn to a product, classified in class 428, subclass 364.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product could be made by another and materially different process such as making extruding a film and slitting. Alternatively, the process as claimed can be used to make other and materially different product such as a film (rather than a filament).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

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In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai*, *In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

During a telephone conversation with Robert Furr on 02 August 2005 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-5. Affirmation of this election must be made by applicant in replying to this Office action. Claim 6 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

The disclosure is objected to because of the following informalities:

- On Page "-3-", line 17, the word "kPascal" is duplicated.
- On Page "-5-", line 20, the word "of" is duplicated.
- On Page "-9-", line 29, the word "desirable" should replace the misspelled word "desireable."
- On Page "-10-", line 5, the word "toughness" should replace the misspelled word "touoghness."

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Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwinn (US Patent No. 6,234,390).

Schwinn teaches a method of making a melt spun polyamide filament (abstract). Schwinn teaches supplying polyamide polymer to a solid phase polycondensation apparatus (SPP) (see col. 6, lines 61-64). A nitrogen purge gas is supplied at 23-51 m³/min. and polymer is supplied from 1460 to 1870 lb./hr. (see col. 7, lines 56-59; col. 8, lines 36-40; and Table 1). The ratio of the flow rates (kg purge gas/hour per kg purge gas/hour) is 1.9 to 5.5 (see calculations below), which reads on the claimed range of 2 to 3.

N ₂ flow rate (m ³ /min)	Conversion 1.185 kg/m ³ of N ₂ at STP	dimensional conversion 60 min./hr.	N ₂ flow rate kg./hr.
23	1.185	60	1635
51	1.185	60	3626

polymer mass flow	
lb./hr.	kg./hr.
1460	663
1660	754
1870	849

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purge gas flow rate kg./hr.	polymer flow rate kg./hr.	mass flow ratio of purge gas to polymer
1635	663	2.5
3626	663	5.5
1635	754	2.2
3626	754	4.8
1635	849	1.9
3626	849	4.3

Schwinn teaches conveying the polymer to a melt extruder and extruding the melted polyamide polymer through a spinneret to form at least one continuous filament (see col. 16, lines 22-30).

Schwinn does not appear to explicitly teach that the solid phase polycondensation system pressure is within the claimed range (e.g., 110 to 120 kPascal). However, in this regard, Schwinn further teaches that a constant amount of gas per unit time is to be maintained with positive pressure in the SPP vessel. As such, Schwinn obviously recognizes that the solid phase polycondensation system pressure is a result-effective variable. Since the solid phase polycondensation system pressure would be a result-effective variable, one of ordinary skill in the art would have obviously determined the optimum the solid phase polycondensation system pressure applied in the process of Schwinn through routine experimentation based upon maintaining the desired amount of gas flow and positive pressure in the SPP vessel.

With respect to Claim 2, the filaments are quenched, which is a type of cooling, this quenching and cooling (see col. 13, lines 30-34).

With respect to Claim 3, the filament is coated with a spin finish, which reads on the broadly claimed "post-treating" (see col. 13, lines 30-34), and is wound around

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several rollers 178, 178, and 180 (see Fig. 4), which reads on the broadly claimed "winding".

With respect to Claim 5, as previously described in Claim 1, Nitrogen is purge gas and a ratio of 1.9-5.5 is obtained, reading on the claimed range of 2-3.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwinn (US Patent No. 6,234,390) as applied to claim 3 above, and further in view of Eberius (US Patent No. 4,034,034).

With respect to Claim 4, Schwinn teaches a process for making a synthetic melt spun polyamide filament as previously described.

Schwinn does not explicitly teach wiping the spinneret plate on the capillary exit side, in cycles, wherein each wiping cycle is separated by about 8 to about 12 hours.

Eberius teaches making a polyamide filament and wiping the spinneret in a cycle of 8 hours, which reads on the claimed range.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to wipe the spinneret as taught by Eberius in the process as taught by Schwinn because drippings, deposits, and encrustations easily form on the spinneret, and to prevent disruptions to production and formation of expected package size (see Eberius, col. 1, lines 32-64 and col. 2, lines 62-69).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwinn (US Patent No. 6,234,390) as applied to claim 3 above, and further in view of Fourné (*Synthetic Fibers*, p. 359).

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With respect to Claim 4, Schwinn teaches a process for making a synthetic melt spun polyamide filament as previously described.

Schwinn does not explicitly teach wiping the spinneret plate on the capillary exit side, in cycles, wherein each wiping cycle is separated by about 8 to about 12 hours.

Fourné teaches wiping the first 5-15 cm below the spinneret, which would include the spinneret, at regular intervals (cycle) to avoid monomer growth (first paragraph of section 4.7.5.1).

Schwinn in view of Fourné does not appear to explicitly teach that the wipe cycle frequency is within the claimed range (e.g., every 8-12 hours). However, in this regard, Fourné further teaches wiping at regular intervals to avoid monomer growth on the spinneret area (first paragraph of section 4.7.5.1). As such, Fourné obviously recognizes that the wipe cycle frequency is a result-effective variable. Since the wipe cycle frequency would be a result-effective variable, one of ordinary skill in the art would have obviously determined the optimum the wipe cycle frequency applied in the process of Schwinn in view of Fourné through routine experimentation based upon minimizing disruptive monomer build-up.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to wipe the spinneret as taught by Fourné in the process as taught by Schwinn in order to minimize disruptive monomer build-up.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Butler whose telephone number is 571-272-

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8517. The examiner can normally be reached on Monday through Friday 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on 571-272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patrick Butler
Assistant Examiner
Art Unit 1732



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